Boardman to Hemingway Transmission Line Project	Exhibit W
ATTACHMENT W-1	
FACILITIES REMOVAL AND SITE RESTORATION COST ESTI	MATE

#### **B2H Exhibit W Errata Sheet**

#### Dear Reader:

Exhibit W demonstrates the Boardman to Hemingway Transmission Line Project (Project) site, taking into account mitigation, can be restored adequately to a useful, non-hazardous condition. High-voltage transmission lines, including the Project, are designed and maintained to remain in service in perpetuity. For this reason, it is highly unlikely the Project would ever be retired. Nevertheless, Exhibit W describes the actions necessary to restore the Project site in the unlikely event the Project is retired. Further, Exhibit W provides a financial analysis of the costs associated with such site restoration.

The Applicant submitted its final Application for Site Certification on October 3, 2018. Subsequently, the Oregon Department of Energy requested certain additional information about the Project pursuant to Oregon Administrative Rule (OAR) 345-015-0190(9). This errata sheet provides the requested information—which may include corrections to the exhibit text, tables, figures, and/or proposed conditions—as it relates to Exhibit W.

As you read this exhibit, please keep in mind that any corrections identified in this errata sheet shall prevail over the contents of the exhibit document itself.

#### **Summary of Additional Information Provided for Exhibit W and Its Attachments**

Page #	Section #	Request for Additional Information
W-6	Section 3.3	Date of current dollar estimate revised to third quarter 2016.
Attachment W-1	Grid Enhancing Electric Transmission Lines Table	Footnote added to table to explain use of 4% contingency.

#### **Specific Additional Information Provided for Exhibit W and Its Attachments**

#### Page W-6, Section 3.3

**Description of Additional Information:** Date of current dollar estimate revised.

#### **Text Edits Shown in Red:**

IPC estimates that the total cost of restoring the site to a useful, non-hazardous condition is \$140,902,000 in third quarter 2016 dollars. A copy of the analysis supporting this calculation is attached as Attachment W-1.

#### **Attachment W-1 Grid Enhancing Electric Transmission Lines Table**

**Description of Additional Information:** Footnote added to table to explain use of 4% contingency.

#### **Text Edits Shown in Red:**

A project the size of B2H, that covers such a large area is expected to realize an economy of scale that would justify a 4% contingency for Site Restoration. Also, the B2H project in operation will not result in any hazardous conditions that would be difficult or unusually expensive to restore (i.e. everything to be removed are inert materials) thus the lower restoration contingency is appropriate. The Project Owner Engineer (HDR) has extensive experience restoring transmission line projects that have demonstrated a 4% contingency is appropriate.

## Grid-Enhancing Electric Transmission Lines Tab 01 - Summary Estimating Template

Task Description	Unit	Quantity	Unit Cost	Total	Comments	Methods/Assumptions
1. GENERAL COSTS						
A. PERMITS						
1. DEMOLITION	EA	0	\$0.00	\$0	All permits included in line item cost below	
2. STREET USE	EA	0	\$0.00	\$0	All permits included in line item	
<del></del>			•	·	cost below Pipe line, Rail, crossing and	
3. UTILITIES	EA	1	\$25,000.00	\$25,000	disturbance during decommissioning.	Allocation estimate - \$25K
4. EPA ASBESTOS NOTICE     5. PERMITS (Temporary de-construct))	EA LS	0	\$0.00 \$24,183.12	\$0 \$24,183	N/A Miscellaneous permits	Estimated cost to obtain necessary permits.
Task Subtotal			ψ <u>υ</u> 1,100/12	\$49,183	miceonaneede permite	zomiatou ooti to obtain nooodary pomia.
B. MOBILIZATION & DEMOBILIZATION		1				
1. LABOR	LS	1	\$2,613,111.57	\$2,613,112	A project of this size is expected to have multiple mobilization costs approximately 5% of the overall Project Cost. Mobilization split 50% Labor and 50% equipment	Assumes ~2.5% of total construction cost before contingency; Taxes
2. EQUIPMENT	LS	1	\$2,613,111.57	\$2,613,112	See above	Assumes ~2.5% of total construction cost before contingency; taxes
Task Subtotal				\$5,226,223		
C. ENGINEERING						
1. ENGINEERING	HR	1300	\$145.23	\$188,799	Engineering subcontracted by Owner to develop SOW, removal specifications and support Owner during decommissioning.	Assumes 1300 hours of engineering time at average rate of \$145.23/hr.
2. LAYOUT / TESTING 3. CUSTOM TOOLS & EQUIP	LS LS	0	\$0.00 \$0.00		N/A N/A	
Task Subtotal	LO		ψ0.00	\$188,799	1477	
D. PROJECT OVERHEAD						
1. SUPERVISION	WK	78	\$2,475.00	\$193,050	Owner's on-site supervision and inspection during	Assumes weekly burdened rate of \$2475
2. FOREMAN	WK	78	\$2,200.00	\$171,600	decommissioning. Site Engineering	Assumes weekly burdened rate of \$2200
3. GUARD SERVICE (site security)	WK	234	\$4,624.00	\$1,082,016	Third party guard service for equipment and materials at project salvage yards.	Assumes 3 guarded sites for 78 weeks. Night and weekend service at \$4624/wk.
4. CLERICAL	WK	78	\$2,130.00	\$166,140	Office staff assistant. One per Owner supervisor.	Assumes 3 clerical (\$710/wk).for 78 week duration
5. JOBSITE OFFICE	WK	78	\$1,054.00	\$82,212	Jobsite office to house temporary demolition services personnel.	Assumes rental cost of \$1054/Week.3 trailers for 78 mo duration with hook ups.
6. TEMP. UTILITIES	WK	234	\$192.00	\$44,928	Jobsite temporary utilities during decommissioning.	Jobsite temporary utilities during decommissioning. Assumes cost of \$192/wk for each of 3 project areas for 78 week duration.
7. SPECIAL INSURANCE	LS	0	\$0.00	\$0	Included in Contractor Overheads	areas for 70 week duration.
8. SUBSISTENCE	WK	0	\$0.00	\$0	Included in burdened labor costs	
Task Subtotal				\$1,739,946		
1. ASBESTOS ABATEMENT	TION EA	0	\$0.00	\$0	No hazardous materials expected	
2. Spill Mitigation	EA	4	\$15,000.00	\$60,000	Minor spills with petroleum products	Not expected but anticipate \$15.000 / per incindent
Task Subtotal		ı		\$60,000	products	
F. PROTECTION						
1. SIGNS	LS	1	\$25,000.00		Nominal Amount for Signage Chain link fencing around material	Assumes \$30.72 K in fencing per storage yard for 3
2. FENCES 3. PEDESTRIAN WALKWAY	LS LF	3	\$30,720.00	\$92,160 \$0	storage/salvage yards. N/A	yards based on Crew and materials
4. SCAFFOLDING	SF	0	\$0.00	\$0	N/A	
5. SHORING 6. FLAGGING	SF LS	1	\$0.00 \$56,160.00	\$0 \$56,160	N/A  Nominal Amount for Traffic Control	Assumes crew of 2x1 day per week \$720/day. Guard structures included in conductor removal.
7. TOOLS AND CONSUMABLES	LS	0	\$0.00	\$0	Included in burdened labor costs	Cuara siratures included in conductor removal.
Task Subtotal				\$173,320		
2. SITE CONSTRUCTION						
A. UTILITY DISCONNECTS		, ,			11	
1. POWER	EA	12	\$5,391.00	\$64,692	Disconnect costs from local utility.	Assumes \$5391 disconnect cost from local distribution utility for each of 9 communication
Task Subtotal		I		\$64,692		stations and 3 storage / staging areas.
B. PRELIMINARY WORK						
Communication Station Fence & Gate removal	EA	9	\$5,925.00	\$53,325	Removal of existing facility fencing and gates.	Assumes removal of fencing around 9 communication stations. Approximately \$5,925 Each
2. Storage yard Fence & Gate removal	EA	3	\$5,925.00	\$17,775	Removal of storage yard fence on completion of material removal	Assumes removal of fencing around 3 storage yards. Approximately \$5,925 Each
3. SAW CUTTING, ETC.	LF	0	\$0.00	\$0 \$71 100	N/A	,
Task Subtotal				\$71,100	<u> </u>	

			Tab 01 - Summ	ary Estimation	ig remplate	
Task Description	Unit	Quantity	Unit Cost	Total	Comments	Methods/Assumptions
SITE GRADING						
1A. ACCESS ROAD RESTORATION - PRIMITIVE ROADS AND TOWER PADS	AC	374	\$2,000.00	\$748,000	Restoration includes scarifying road bed, minimal re-grading, re- seeding.	Assumes 106 miles of overland travel roads restored @ 15' width; 65 miles of bladed roads or <10% sideslopes restored @ 23' width
1B. ACCESS ROAD RESTORATION - BUILT UP ALL-WEATHER ROADS.	AC	207	\$5,700.00	\$1,181,455	Restoration includes full restoration of built-up all-weather	Assumes all communication station roads are included, 57 miles of new bladed roads on 10-30 side slopes @ 30' wide.
1C. ROADWAY REMOVAL (GRAVEL)	AC	0	\$0.00	\$0	Included in 0A.	
2. TOWER PADS AND COMMUNICATION STATIONS	AC	586	\$5,700.00	\$3,340,200	Restoration includes full restoration of site. Removal of gravel, re-grading as necessary for restoration of natural contours, re- seeding.	1166 structures at 150'x150' (0.5 acres) each an communiction stations at .3 acres ea
2. SITE PREPARATION (TOPSOIL)	AC	583	\$4,747.00	\$2,767,501	Topsoil restoration (grading&prep) for tower area after de-construct	Anticipate acerage similar to area disturbed by construction. ~0.5 A per site (1166 sites)
3. SEEDING	AC	0	\$0.00		Included in 1A, 1B and 2.	
4. MASS EXCAVATION ONSITE  4A. MASS EXCAVATION OFFSITE	CY	0	\$0.00 \$0.00	\$0 \$0	N/A N/A	
5. MASS BACKFILL ONSITE	CY	0	\$0.00		N/A	
5A. MASS BACKFILL IMPORT	CY	332662	\$8.00	\$2,661,296	Backfill required to restore tower benched areas to natural contours.	Assumes 50% of bench cut had been disposed of local landfills or elsewhere and must be imported 50% remained on site and will be recycled.
Task Subtotal				\$10,698,452		
LINDED COOLING LITTLETY DEMOVAL						
1. ELECTRICAL DUCT BANK	EA	9	\$4,579.14	\$41,212	Remove and backfill underground ducts at communicaton sites.	Assumes 50' of ug duct at 9 comm stations. 4 person crew will complete 1 day on site
2. MH/CB/VAULT REMOVAL	EA	0	\$0.00		N/A	
Task Subtotal				\$41,212		
CONCRETE WRECKING						[Imported from Tab 3]
nter data on tab "03 Concrete Wrecking."						[
						(mperiod nom rous e)
	EA	9	\$8,100.00	\$72,900	tor removal. Includes removal,	Assumes 6 person crew. Loaded crew rate is
1. SLAB ON GRADE 2. MINOR FOOTINGS	CY	0	\$0.00	\$0	have 2 slabs (building & Propane) for removal. Includes removal, haul and disposal. N/A	Assumes 6 person crew. Loaded crew rate is \$540/hour includes equipment. Estimate 1 1/2 da
1. SLAB ON GRADE				\$0 \$0	have 2 slabs (building & Propane) for removal. Includes removal, haul and disposal. N/A N/A Foundation removal 10 cy per 500 kV structure (4' diameter, 5' of	Assumes 6 person crew. Loaded crew rate is \$540/hour includes equipment. Estimate 1 1/2 daper site (15 hrs)  Assumes 6 person crew can remove foundations
1. SLAB ON GRADE 2. MINOR FOOTINGS 3. MASS FOUNDATIONS 4. TRANSMISSION STRUCTURE	CY	0 0	\$0.00 \$0.00	\$0 \$0	have 2 slabs (building & Propane) for removal. Includes removal, haul and disposal.  N/A  N/A  Foundation removal 10 cy per 500 kV structure (4' diameter, 5' of removed length per leg, 4 legs - 2' above ground, 3' below ground), includes haul and disposal.	Assumes 6 person crew. Loaded crew rate is \$540/hour includes equipment. Estimate 1 1/2 daper site (15 hrs)  Assumes 6 person crew can remove foundations 1.5 structures per day (~18 cy/day). Loaded crew
1. SLAB ON GRADE  2. MINOR FOOTINGS 3. MASS FOUNDATIONS  4. TRANSMISSION STRUCTURE FOUNDATIONS  Task Subtotal	CY	0 0	\$0.00 \$0.00	\$0 \$0 \$3,718,402	have 2 slabs (building & Propane) for removal. Includes removal, haul and disposal.  N/A  N/A  Foundation removal 10 cy per 500 kV structure (4' diameter, 5' of removed length per leg, 4 legs - 2' above ground, 3' below ground), includes haul and disposal.	Assumes 6 person crew. Loaded crew rate is \$540/hour includes equipment. Estimate 1 1/2 daper site (15 hrs)  Assumes 6 person crew can remove foundations 1.5 structures per day (~18 cy/day). Loaded crew
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1. SLAB ON GRADE  2. MINOR FOOTINGS 3. MASS FOUNDATIONS  4. TRANSMISSION STRUCTURE FOUNDATIONS  Task Subtotal  NON-REINFORCED CONCRETE/OTHER 1. DEAD MEN 2. SECURITY RAILS	CY CY CY	0 0 12380	\$0.00 \$0.00 \$0.00 \$300.36 \$0.00 \$0.00	\$3,718,402 \$3,791,302 \$0 \$0	have 2 slabs (building & Propane) for removal. Includes removal, haul and disposal.  N/A  N/A  Foundation removal 10 cy per 500 kV structure (4' diameter, 5' of removed length per leg, 4 legs - 2' above ground, 3' below ground), includes haul and disposal.  N/A  N/A	Assumes 6 person crew. Loaded crew rate is \$540/hour includes equipment. Estimate 1 1/2 daper site (15 hrs)  Assumes 6 person crew can remove foundations 1.5 structures per day (~18 cy/day). Loaded crew
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1. SLAB ON GRADE  2. MINOR FOOTINGS 3. MASS FOUNDATIONS  4. TRANSMISSION STRUCTURE FOUNDATIONS  Task Subtotal  NON-REINFORCED CONCRETE/OTHER 1. DEAD MEN 2. SECURITY RAILS 3. CONCRETE RECYCLE 4. PILING Task Subtotal  BUILDING WRECKING (Assumes contained) 1. Communication Control Building 2. ELECTRICAL/MCC Task Subtotal  STEEL WRECKING (All steel wrecking assu	CY CY CY LF CY EA SF	0 0 12380	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$10,593.00 \$0.00	\$3,718,402 \$3,791,302 \$3,791,302 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	have 2 slabs (building & Propane) for removal. Includes removal, haul and disposal.  N/A  N/A  Foundation removal 10 cy per 500 kV structure (4' diameter, 5' of removed length per leg, 4 legs - 2' above ground, 3' below ground), includes haul and disposal.  N/A  N/A  N/A  N/A  N/A  Removal of control building at communication stations. Includes removal of equipment inside building, hauling and disposal.  Included above	Assumes 6 person crew. Loaded crew rate is \$540/hour includes equipment. Estimate 1 1/2 d per site (15 hrs)  Assumes 6 person crew can remove foundation: 1.5 structures per day (-18 cy/day). Loaded crev rate is \$540.64/hour.  Assumes 4-person crew will remove salvageable equipment from building in three days. Building remove, load and haul - 3 days. Loaded crew de
1. SLAB ON GRADE  2. MINOR FOOTINGS 3. MASS FOUNDATIONS  4. TRANSMISSION STRUCTURE FOUNDATIONS  Task Subtotal  NON-REINFORCED CONCRETE/OTHER 1. DEAD MEN 2. SECURITY RAILS 3. CONCRETE RECYCLE 4. PILING Task Subtotal  BUILDING WRECKING (Assumes contained) 1. Communication Control Building 2. ELECTRICAL/MCC Task Subtotal  STEEL WRECKING (All steel wrecking assu	CY CY CY LF CY EA SF	0 0 12380	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$10,593.00 \$0.00	\$3,791,302 \$3,791,302 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$1 \$2 \$2 \$3,791,302 \$3 \$4 \$5 \$5 \$6 \$6 \$7 \$6 \$7 \$6 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7	have 2 slabs (building & Propane) for removal. Includes removal, haul and disposal.  N/A N/A Foundation removal 10 cy per 500 kV structure (4' diameter, 5' of removed length per leg, 4 legs - 2' above ground, 3' below ground), includes haul and disposal.  N/A N/A N/A N/A N/A N/A N/A N/A N/A N/	Assumes 6 person crew. Loaded crew rate is \$540/hour includes equipment. Estimate 1 1/2 daper site (15 hrs)  Assumes 6 person crew can remove foundations 1.5 structures per day (~18 cy/day). Loaded crew rate is \$540.64/hour.  Assumes 4-person crew will remove salvageable equipment from building in three days. Building remove, load and haul - 3 days. Loaded crew da rate is \$3531 including equipment.  [Imported from Tab 5]  Assumes 9 man crew to remove 1 tower in 5 day Loaded crew rate is \$1073/hour including
1. SLAB ON GRADE  2. MINOR FOOTINGS 3. MASS FOUNDATIONS  4. TRANSMISSION STRUCTURE FOUNDATIONS  Task Subtotal  . NON-REINFORCED CONCRETE/OTHER 1. DEAD MEN 2. SECURITY RAILS 3. CONCRETE RECYCLE 4. PILING Task Subtotal  BUILDING WRECKING (Assumes containe)  1. Communication Control Building 2. ELECTRICAL/MCC Task Subtotal  STEEL WRECKING (All steel wrecking assumer data on tab "05 Steel Wrecking."	CY CY CY LF CY EA SF	0 0 12380	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$10,593.00 \$0.00	\$3,791,302 \$3,791,302 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$1 \$2 \$2 \$3,791,302 \$3 \$4 \$5 \$5 \$6 \$6 \$7 \$6 \$7 \$6 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7	have 2 slabs (building & Propane) for removal. Includes removal, haul and disposal.  N/A  N/A  N/A  Foundation removal 10 cy per 500 kV structure (4' diameter, 5' of removed length per leg, 4 legs - 2' above ground, 3' below ground), includes haul and disposal.  N/A  N/A  N/A  N/A  N/A  N/A  Included above  Removal of control building at communication stations. Includes removal of equipment inside building, hauling and disposal.  Included above  Removal of hardware and disassembly of 500 kV lattice towers.  Permoval of bardware and	Assumes 6 person crew. Loaded crew rate is \$540/hour includes equipment. Estimate 1 1/2 da per site (15 hrs)  Assumes 6 person crew can remove foundations 1.5 structures per day (~18 cy/day). Loaded crev rate is \$540.64/hour.  Assumes 4-person crew will remove salvageable equipment from buidling in three days. Building remove, load and haul - 3 days. Loaded crew da rate is \$3631 including equipment.  [Imported from Tab 5]  Assumes 9 man crew to remove 1 tower in 5 day Loaded crew rate is \$1073/hour including equipment.
. REINFORCED CONCRETE  1. SLAB ON GRADE  2. MINOR FOOTINGS 3. MASS FOUNDATIONS  4. TRANSMISSION STRUCTURE FOUNDATIONS  Task Subtotal  . NON-REINFORCED CONCRETE/OTHER 1. DEAD MEN 2. SECURITY RAILS 3. CONCRETE RECYCLE 4. PILING Task Subtotal  1. Communication Control Building 2. ELECTRICAL/MCC Task Subtotal  STEEL WRECKING (All steel wrecking assunter data on tab "05 Steel Wrecking."  1. 500-kV LATTICE TOWERS  2. 500-kV H-FRAME STRUCTURES 3. SORT/CLEAN/HAUL	CY CY CY LF CY EA SF JIMES MA EA EA	0 0 12380	\$0.00 \$0.00	\$3,718,402 \$3,791,302 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	have 2 slabs (building & Propane) for removal. Includes removal, haul and disposal.  N/A  N/A  Foundation removal 10 cy per 500 kV structure (4' diameter, 5' of removed length per leg, 4 legs - 2' above ground, 3' below ground), includes haul and disposal.  N/A  N/A  N/A  N/A  N/A  N/A  Included in Section 17	Assumes 6 person crew. Loaded crew rate is \$540/hour includes equipment. Estimate 1 1/2 da per site (15 hrs)  Assumes 6 person crew can remove foundations 1.5 structures per day (~18 cy/day). Loaded crew rate is \$540.64/hour.  Assumes 4-person crew will remove salvageable equipment from buidling in three days. Building remove, load and haul - 3 days. Loaded crew dai rate is \$3531 including equipment.  [Imported from Tab 5]  Assumes 9 man crew to remove 1 tower in 5 day Loaded crew rate is \$1073/hour including equipment.  Assumes 9 man crew to remove 1 h-frame in 2
1. SLAB ON GRADE  2. MINOR FOOTINGS 3. MASS FOUNDATIONS  4. TRANSMISSION STRUCTURE FOUNDATIONS  Task Subtotal  5. NON-REINFORCED CONCRETE/OTHER 1. DEAD MEN 2. SECURITY RAILS 3. CONCRETE RECYCLE 4. PILING Task Subtotal  1. Communication Control Building 2. ELECTRICAL/MCC Task Subtotal  STEEL WRECKING (All steel wrecking assisted and the building) 1. STEEL WRECKING (All steel wrecking."  1. 500-kV LATTICE TOWERS  2. 500-kV H-FRAME STRUCTURES	CY CY CY CY LF CY EA SF LA SF LA EA EA	0 0 12380 0 0 0 0 0 0 0 0 0 terial is knoc	\$0.00 \$0.00	\$3,718,402 \$3,791,302 \$3,791,302 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$1,931,400 \$0 \$0 \$0	have 2 slabs (building & Propane) for removal. Includes removal, haul and disposal.  N/A Foundation removal 10 cy per 500 kV structure (4' diameter, 5' of removed length per leg, 4 legs - 2' above ground, 3' below ground), includes haul and disposal.  N/A N/A N/A N/A N/A N/A N/A N/A N/A N/	Assumes 6 person crew. Loaded crew rate is \$540/hour includes equipment. Estimate 1 1/2 da per site (15 hrs)  Assumes 6 person crew can remove foundations 1.5 structures per day (~18 cy/day). Loaded crew rate is \$540.64/hour.  Assumes 4-person crew will remove salvageable equipment from buidling in three days. Building remove, load and haul - 3 days. Loaded crew dai rate is \$3631 including equipment.  [Imported from Tab 5]  Assumes 9 man crew to remove 1 tower in 5 day Loaded crew rate is \$1073/hour including equipment.

#### Tab 01 - Summary Estimating Template

	Tab 01 - Summary Estimating Template					
Task Description	Unit	Quantity	Unit Cost	Total	Comments	Methods/Assumptions
6. TIMBER WRECKING (All timber wrecking a	ssumes	material is kr	ocked down and p	ut into stockpile f	or sorting).	[Imported from Tab 6]
Enter data on tab "06 Timber Wrecking."		_				
1. 230-kV TIMBER TOWER 2. 138-kV TIMBER TOWER	EA EA	0	\$4,604.13 \$4,604.13	\$0 \$0		
Task Subtotal	EA	U	\$4,604.13			
				**		
16. ELECTRICAL WRECKING						[Imported from Tab 16]
Enter data on tab "16 Electrical Wrecking."						
1. TRANSFORMERS	EA	0	\$0.00		N/A	
2. MOTOR CONTROL CENTER 3. WIRING	EA LF	0	\$0.00 \$0.00		N/A N/A	
4. SWITCH YARD	SF	0	\$0.00		N/A	
5. SWITCH YARD TOWERS	EA	0	\$0.00		N/A	
6. Grounding	LF	111,200	\$0.03	\$3,336	Removal , handling & loading	Estimates 2 x laborers and vehicle approxinately 2 hours per tower to retrive and load. Worked in conjunction with foundation removal.
7. Transmission Conductor - 500 kV	MI	286	\$76,743.60	\$21,917,972	Removal, loading and hauling of 3- 1519 ACSR Conductor, Dampers, OHGW and OPGW. Includes guard structures. Unit is circuit- mile.	Estimates 16 person crew to remove one mile in 6 days. Loaded crew rate is \$1279/hour.
8. Transmission Line (s) 230/138	MI	4	\$9,699.00	\$40,833	Includes Shield wire	Retrive and load
9. Insulator Strings	EA	3,498	\$10.50	\$36,729	Removal Included in tower removal costs	Retrive and load-anticipate landfill disposal at ~\$60/ton
10. Communication Stations	Ea	9	\$ 7,050.00	\$63,450	Removal of Propane and restoration (fill and grade) of the	Control building remove under section 4.
Task Subtotal				\$22,062,320	sites	
17. LOAD & HAUL					Loading and hauling of tower steel	Assumes 5 man crew to load/haul one structure per
LOAD & HAUL - STRUCTURAL STEEL	LD	1,166	\$5,000.00		and H-Frames to laydown/salvage yard.	day. Loaded crew rate is \$500/hour.
2. DISPOSAL - DEBRIS	LD LD	0	\$0.00	\$0 \$0		Assume steel will be salvaged w/o disposal fee.
3. LOAD & HAUL CONC. 4. DISPOSAL - CONCRETE	LD	0	\$0.00 \$0.00		Included in Concrete Wrecking Included in Concrete Wrecking	
5. SCRAP STEEL	LD	0	\$0.00	\$0	N/A	
Task Subtotal				\$5,830,000		
SUBTOTAL			1	\$109,750,686		Course of all totals and totals
SUBTUTAL				\$109,750,000		Sum of all task subtotals.
OVERHEAD @ COSTS + OVERHEAD	0.0%			\$0 \$109,750,686		Contractor overhead built into loaded labor costs
PROFIT @ COSTS + OVERHEAD + PROFIT	0.0%			\$0 \$109,750,686		Contractor profit built into loaded labor costs
INSURANCE @ COSTS + OVERHEAD + PROFIT + INSURA	0.0% <b>ANCE</b>			\$0 \$109,750,686		Contractor insurance built into overhead costs
18. SCRAP CREDIT (Currently not allowed by	y EFSC.)			\$18,026,428		[Imported from Tab 18]
SUBTOTAL (if scrap credit given)				\$109,750,686		Srap credit is excluded
19. SEPARATE SPECIALTY CONTRACTS SUBTOTAL (including specialty contracts)				<b>\$485,400</b> \$110,236,086		[Imported from Tab 19]
GROSS COST				\$110,236,086		
ADDERS						
PERFORMANCE BOND	<b>1</b> %			\$1,102,361		
GROSS COST (ADJUSTED)				\$111,338,447		
ADMINISTRATION AND PROJECT MANA	GEMENT 9 4%			\$4,453,538		
CONTINGENCY -	20%			\$22,267,689		
HAZARDOUS MATERIALS MANAGEMEN	T CONTI	NGENCY				
	LS			\$0	Included in spill mitigation Line E.2	
TOTAL SITE RESTORATION COST (not ad	ljusted)			\$138,059,674		
					·	

## Grid-Enhancing Electric Transmission Lines COST ESTIMATE FOR FACILITY SITE RESTORATION

(3rd Quarter 2016 Dollars)

**Adjustment Factor:** 1.02

GDP Index 2nd Quarter 2016: Est. GDP Index 2017: 111.7 113.9 http://www.oregon.gov/DAS/OEA/econol Historical Quarterly Tables, Other indicators, Quarterly Data

A. PERMITS B. MOBILIZATION C. ENGINEERING D. PROJECT OVERHEAD E. HAZARDOUS MATERIALS INSPECTIONS F. PROJECTION S17,33,9 E. HAZARDOUS MATERIALS INSPECTIONS F. PROTECTION S173,3,3 General Costs Subtotal Site Construction A. UTILITY DISCONNECTS B. PRELIMINARY WORK C. SITE GRADING D. UNDERGROUND UTILITY REMOVAL Site Construction Subtotal Site Concrete Wrecking A. REINFORCED CONCRETE B. NON-REINFORCED CONCRETE Concrete Wrecking Subtotal Side Wrecking Steel Wrecking	0	
B. MOBILIZATION	General Costs	<b>\$40,400</b>
C. ENGINEERING D. PROJECT OVERHEAD E. HAZARDOUS MATERIALS INSPECTIONS F. PROTECTION F. PROTECTION S173,3; General Costs Subtotal S7,437,4; Site Construction A. UTILITY DISCONNECTS B. PRELIMINARY WORK C. SITE GRADING D. UNDERGROUND UTILITY REMOVAL Site Construction Subtotal S10,898,44; Concrete Wrecking A. REINFORCED CONCRETE B. NON-REINFORCED CONCRETE Concrete Wrecking Subtotal S3,791,36 Steel Wrecking Steel Wrecking Steel Wrecking Steel Wrecking Electrical Wrecking S22,062,33 Load & Haul S5,830,06 Costs Subtotal Overhead @ 0% Profit @ 0% Insurance @ 0% Specialty Contracts (subcontracted work) Subtotal Adjusted to Current Dollars Performance Bond @ 1% S1,995,83 S12,706,23 S12,407,24 Gross Cost (Adjusted) Administration and Project Management @ 4% S4,541,24 Contingency @ 20% Hazardous Materials Management Contingency Total Site Restoration Cost (current dollars) S140,778,84		
D. PROJECT OVERHEAD		
E. HAZARDOUS MATERIALS INSPECTIONS F. PROTECTION S173,33 General Costs Subtotal \$7,437,41 Site Construction A. UTILITY DISCONNECTS B. PRELIMINARY WORK C. SITE GRADING D. UNDERGROUND UTILITY REMOVAL Site Construction Subtotal S10,875,41 Concrete Wrecking A. REINFORCED CONCRETE B. NON-REINFORCED CONCRETE Concrete Wrecking Subtotal S3,791,36 Building Wrecking Steel Wrecking Steel Wrecking Steel Wrecking S195,33 Steel Wrecking S22,062,33 Load & Haul S5,830,00 Costs Subtotal Overhead @ 0% Profit @ 0% Insurance @ 0% Specialty Contracts (subcontracted work) Specialty Contracts (subcontracted work) Specialty Contracts (subcontracted work) Subtotal Adjusted to Current Dollars Performance Bond @ 1% Gross Cost (Adjusted) Administration and Project Management @ 4% S11,240,728 Contingency @ 20% Hazardous Materials Management Contingency Total Site Restoration Cost (current dollars) \$140,778,84		• •
F. PROTECTION \$173,33  General Costs Subtotal \$7,437,43  Site Construction A. UTILITY DISCONNECTS \$64,66 B. PRELIMINARY WORK \$71,10 C. SITE GRADING \$10,698,44 D. UNDERGROUND UTILITY REMOVAL \$41,22  Site Construction Subtotal \$10,875,43  Concrete Wrecking A. REINFORCED CONCRETE \$3,791,30 B. NON-REINFORCED CONCRETE B. NON-REINFORCED CONCRETE Concrete Wrecking Subtotal \$33,791,30  Building Wrecking \$59,53  Steel Wrecking \$59,658,86  Timber Wrecking \$22,062,33  Load & Haul \$5,830,00  Costs Subtotal \$109,750,66 Profit @ 0% Profit @ 0% Insurance @ 0% Specialty Contracts (subcontracted work) \$485,40  Subtotal Adjusted to Current Dollars Performance Bond @ 1% Gross Cost (Adjusted) \$113,531,33 Administration and Project Management @ 4% English Administration and Project Management @ 4% Hazardous Materials Management Contingency & \$22,706,25  Total Site Restoration Cost (current dollars) \$140,778,845		\$1,739,946
Stite Construction		\$60,000
Site Construction         A. UTILITY DISCONNECTS         \$64,63           B. PRELIMINARY WORK         \$71,11           C. SITE GRADING         \$10,698,49           D. UNDERGROUND UTILITY REMOVAL         \$41,23           Site Construction Subtotal         \$10,875,49           Concrete Wrecking         \$3,791,30           B. NON-REINFORCED CONCRETE         \$3,791,30           B. NON-REINFORCED CONCRETE         \$3,791,31           Building Wrecking         \$95,33           Steel Wrecking         \$59,658,80           Timber Wrecking         \$22,062,33           Load & Haul         \$5,830,00           Costs Subtotal         \$109,750,60           Overhead @ 0%         \$5           Profit @ 0%         \$5           Insurance @ 0%         \$5           Subtotal         \$110,236,00           Subtotal Adjusted to Current Dollars         \$112,407,25           Performance Bond @ 1%         \$1,124,0           Gross Cost (Adjusted)         \$113,531,33           Administration and Project Management @ 4%         \$4,541,25           Contingency @ 20%         \$22,706,26           Hazardous Materials Management Contingency         \$140,778,84		\$173,320
A. UTILITY DISCONNECTS B. PRELIMINARY WORK C. SITE GRADING D. UNDERGROUND UTILITY REMOVAL Site Construction Subtotal Site Construction Subtotal A. REINFORCED CONCRETE B. NON-REINFORCED CONCRETE Concrete Wrecking Subtotal Sididing Wrecking Steel W		\$7,437,471
B. PRELIMINARY WORK       \$71,10         C. SITE GRADING       \$10,698,48         D. UNDERGROUND UTILITY REMOVAL       \$41,22         Site Construction Subtotal       \$10,875,48         Concrete Wrecking       \$3,791,30         B. NON-REINFORCED CONCRETE       \$3,791,30         Building Wrecking Subtotal       \$3,791,30         Building Wrecking       \$59,533         Steel Wrecking       \$59,658,80         Timber Wrecking       \$22,062,32         Load & Haul       \$5,830,00         Costs Subtotal       \$109,750,60         Overhead @ 0%       \$5,830,00         Profit @ 0%       \$5         Insurance @ 0%       \$109,750,60         Specialty Contracts (subcontracted work)       \$485,40         Subtotal       \$110,236,00         Subtotal Adjusted to Current Dollars       \$112,407,22         Performance Bond @ 1%       \$112,407,22         Gross Cost (Adjusted)       \$113,531,33         Administration and Project Management @ 4%       \$4,541,24         Contingency @ 20%       \$22,706,26         Hazardous Materials Management Contingency       \$140,778,84          Total Site Restoration Cost (current dollars)       \$140,778,84		
C. SITE GRADING       \$10,698,48         D. UNDERGROUND UTILITY REMOVAL       \$41,22         Site Construction Subtotal       \$10,875,48         Concrete Wrecking       \$3,791,30         B. NON-REINFORCED CONCRETE       \$3,791,30         Building Wrecking Subtotal       \$3,791,30         Building Wrecking       \$59,638,80         Steel Wrecking       \$59,658,80         Timber Wrecking       \$22,062,32         Load & Haul       \$5,830,00         Costs Subtotal       \$109,750,60         Overhead @ 0%       \$5         Profit @ 0%       \$6         Insurance @ 0%       \$485,40         Subtotal       \$110,236,00         Subtotal Adjusted to Current Dollars       \$112,407,22         Performance Bond @ 1%       \$1,124,07         Gross Cost (Adjusted)       \$113,531,33         Administration and Project Management @ 4%       \$4,541,21         Contingency @ 20%       \$22,706,26         Hazardous Materials Management Contingency       \$140,778,84         Total Site Restoration Cost (current dollars)       \$140,778,84		\$64,692
D. UNDERGROUND UTILITY REMOVAL       \$41,2°         Site Construction Subtotal       \$10,875,4°         Concrete Wrecking       \$3,791,3°         B. NON-REINFORCED CONCRETE       \$3,791,3°         B. NON-REINFORCED CONCRETE       \$3,791,3°         Concrete Wrecking Subtotal       \$3,791,3°         Building Wrecking       \$59,658,8°         Timber Wrecking       \$22,062,3°         Load & Haul       \$5,830,0°         Costs Subtotal       \$109,750,6°         Overhead @ 0%       \$5         Profit @ 0%       \$5         Insurance @ 0%       \$5         Subtotal       \$110,236,0°         Subtotal       \$110,236,0°         Subtotal Adjusted to Current Dollars       \$112,407,2°         Performance Bond @ 1%       \$1,240,0°         Gross Cost (Adjusted)       \$113,531,3°         Administration and Project Management @ 4%       \$4,541,2°         Contingency @ 20%       \$22,706,2°         Hazardous Materials Management Contingency       \$140,778,8°         Total Site Restoration Cost (current dollars)       \$140,778,8°		\$71,100
Site Construction Subtotal         \$10,875,45           Concrete Wrecking         33,791,36           B. NON-REINFORCED CONCRETE         33,791,36           B. NON-REINFORCED CONCRETE         33,791,36           Concrete Wrecking Subtotal         \$3,791,36           Building Wrecking         \$59,658,86           Timber Wrecking         \$22,062,33           Load & Haul         \$5,830,00           Costs Subtotal         \$109,750,66           Overhead @ 0%         \$3           Profit @ 0%         \$3           Insurance @ 0%         \$3           Specialty Contracts (subcontracted work)         \$485,41           Subtotal         \$110,236,00           Subtotal Adjusted to Current Dollars         \$112,407,25           Performance Bond @ 1%         \$1,124,07           Gross Cost (Adjusted)         \$113,531,33           Administration and Project Management @ 4%         \$4,541,25           Contingency @ 20%         \$22,706,26           Hazardous Materials Management Contingency         \$140,778,86           Total Site Restoration Cost (current dollars)         \$140,778,86		\$10,698,452
Concrete Wrecking         \$3,791,36           A. REINFORCED CONCRETE         \$3,791,36           B. NON-REINFORCED CONCRETE         \$3,791,36           Concrete Wrecking Subtotal         \$95,33           Steel Wrecking         \$59,658,86           Timber Wrecking         \$22,062,33           Load & Haul         \$5,830,00           Costs Subtotal         \$109,750,66           Overhead @ 0%         \$109,750,66           Profit @ 0%         \$3           Insurance @ 0%         \$3           Specialty Contracts (subcontracted work)         \$485,40           Subtotal         \$110,236,00           Subtotal Adjusted to Current Dollars         \$112,407,22           Performance Bond @ 1%         \$1,124,07           Gross Cost (Adjusted)         \$113,531,33           Administration and Project Management @ 4%         \$4,541,25           Contingency @ 20%         \$22,706,26           Hazardous Materials Management Contingency         \$140,778,86           Total Site Restoration Cost (current dollars)         \$140,778,86		\$41,212
A. REINFORCED CONCRETE       \$3,791,36         B. NON-REINFORCED CONCRETE       \$3,791,36         Concrete Wrecking Subtotal       \$3,791,36         Building Wrecking       \$59,33         Steel Wrecking       \$59,658,86         Timber Wrecking       \$22,062,33         Load & Haul       \$5,830,00         Costs Subtotal       \$109,750,66         Overhead @ 0%       \$109,750,66         Profit @ 0%       \$3         Insurance @ 0%       \$3         Specialty Contracts (subcontracted work)       \$485,40         Subtotal       \$110,236,00         Subtotal Adjusted to Current Dollars       \$112,407,25         Performance Bond @ 1%       \$113,531,33         Administration and Project Management @ 4%       \$4,541,25         Contingency @ 20%       \$22,706,26         Hazardous Materials Management Contingency       \$140,778,86          Total Site Restoration Cost (current dollars)       \$140,778,86		\$10,875,456
B. NON-REINFORCED CONCRETE  Concrete Wrecking Subtotal  Building Wrecking  Steel Wrecking  Steel Wrecking  Flectrical Wrecking  Electrical Wrecking  Load & Haul  Costs Subtotal  Overhead @ 0%  Profit @ 0%  Insurance @ 0%  Specialty Contracts (subcontracted work)  Specialty Contracts (subcontracted work)  Subtotal  Subtotal Adjusted to Current Dollars  Performance Bond @ 1%  Gross Cost (Adjusted)  Administration and Project Management @ 4%  Contingency @ 20%  Hazardous Materials Management Contingency  Total Site Restoration Cost (current dollars)	Concrete Wrecking	
Concrete Wrecking Subtotal         \$3,791,34           Building Wrecking         \$95,33           Steel Wrecking         \$59,658,86           Timber Wrecking         \$22,062,33           Electrical Wrecking         \$22,062,33           Load & Haul         \$5,830,00           Costs Subtotal         \$109,750,68           Overhead @ 0%         \$109,750,68           Profit @ 0%         \$3           Insurance @ 0%         \$3           Specialty Contracts (subcontracted work)         \$485,40           Subtotal         \$110,236,00           Subtotal Adjusted to Current Dollars         \$112,407,25           Performance Bond @ 1%         \$1,124,00           Gross Cost (Adjusted)         \$113,531,33           Administration and Project Management @ 4%         \$4,541,25           Contingency @ 20%         \$22,706,26           Hazardous Materials Management Contingency         \$140,778,86           Total Site Restoration Cost (current dollars)         \$140,7778,86	A. REINFORCED CONCRETE	\$3,791,302
Building Wrecking         \$95,33           Steel Wrecking         \$59,658,86           Timber Wrecking         \$22,062,32           Load & Haul         \$5,830,00           Costs Subtotal         \$109,750,66           Overhead @         0%           Profit @         0%           Insurance @         0%           Specialty Contracts (subcontracted work)         \$485,40           Subtotal         \$110,236,00           Subtotal Adjusted to Current Dollars         \$112,407,25           Performance Bond @         1%         \$1,124,07           Gross Cost (Adjusted)         \$113,531,33           Administration and Project Management @         4%         \$4,541,25           Contingency @         20%         \$22,706,26           Hazardous Materials Management Contingency         \$140,778,86           Total Site Restoration Cost (current dollars)         \$140,778,86	B. NON-REINFORCED CONCRETE	\$0
Steel Wrecking         \$59,658,86           Timber Wrecking         \$22,062,33           Load & Haul         \$5,830,00           Costs Subtotal         \$109,750,68           Overhead @ 0%         \$109,750,68           Profit @ 0%         \$3           Insurance @ 0%         \$3           Specialty Contracts (subcontracted work)         \$485,40           Subtotal         \$110,236,00           Subtotal Adjusted to Current Dollars         \$112,407,25           Performance Bond @ 1%         \$1,124,07           Gross Cost (Adjusted)         \$113,531,33           Administration and Project Management @ 4%         \$4,541,25           Contingency @ 20%         \$22,706,26           Hazardous Materials Management Contingency         \$140,778,86           Total Site Restoration Cost (current dollars)         \$140,778,86	Concrete Wrecking Subtotal	\$3,791,302
Timber Wrecking \$22,062,32  Load & Haul \$5,830,00  Costs Subtotal \$109,750,68  Overhead @ 0% Profit @ 0% Insurance @ 0%  Specialty Contracts (subcontracted work) \$485,40  Subtotal Adjusted to Current Dollars Performance Bond @ 1%  Gross Cost (Adjusted) Administration and Project Management @ 4% Contingency @ 20% Hazardous Materials Management Contingency  Total Site Restoration Cost (current dollars)  \$140,778,84	Building Wrecking	\$95,337
Security	Steel Wrecking	\$59,658,800
Load & Haul         \$5,830,00           Costs Subtotal         \$109,750,68           Overhead @ 0%         \$3           Profit @ 0%         \$3           Insurance @ 0%         \$485,40           Specialty Contracts (subcontracted work)         \$485,40           Subtotal         \$110,236,08           Subtotal Adjusted to Current Dollars         \$112,407,28           Performance Bond @ 1%         \$1,124,07           Gross Cost (Adjusted)         \$113,531,32           Administration and Project Management @ 4%         \$4,541,28           Contingency @         20%         \$22,706,26           Hazardous Materials Management Contingency         \$140,778,86           Total Site Restoration Cost (current dollars)         \$140,778,86	Timber Wrecking	\$0
Costs Subtotal         \$109,750,68           Overhead @         0%           Profit @         0%           Insurance @         0%           Specialty Contracts (subcontracted work)         \$485,40           Subtotal         \$110,236,08           Subtotal Adjusted to Current Dollars         \$112,407,28           Performance Bond @         1%         \$1,124,07           Gross Cost (Adjusted)         \$113,531,33           Administration and Project Management @         4%         \$4,541,28           Contingency @         20%         \$22,706,26           Hazardous Materials Management Contingency         \$140,778,84           Total Site Restoration Cost (current dollars)         \$140,778,84	Electrical Wrecking	\$22,062,320
Overhead @ 0% Profit @ 0% Insurance @ 0%  Specialty Contracts (subcontracted work)  Subtotal Subtotal Adjusted to Current Dollars Performance Bond @ 1%  Gross Cost (Adjusted) Administration and Project Management @ 4% Contingency @ 20% Hazardous Materials Management Contingency  Total Site Restoration Cost (current dollars)	Load & Haul	\$5,830,000
Profit @ 0% Insurance @ 0%  Specialty Contracts (subcontracted work)  Subtotal Subtotal Adjusted to Current Dollars Performance Bond @ 1%  Gross Cost (Adjusted) Administration and Project Management @ 4% Contingency @ 20% Hazardous Materials Management Contingency  Total Site Restoration Cost (current dollars)	Costs Subtotal	\$109,750,686
Insurance @ 0%  Specialty Contracts (subcontracted work)  Subtotal Subtotal Adjusted to Current Dollars Performance Bond @ 1%  Gross Cost (Adjusted) Administration and Project Management @ 4% Contingency @ 20% Hazardous Materials Management Contingency  Total Site Restoration Cost (current dollars)  \$485,44 \$110,236,08 \$112,407,29 \$1,124,07 \$1,124,07 \$2,706,26 \$22,706,26 \$3,207 \$3,207 \$3,207 \$3,207 \$3,207 \$3,207 \$4,541,25	Overhead @ 0%	\$0
Specialty Contracts (subcontracted work)\$485,40Subtotal\$110,236,00Subtotal Adjusted to Current Dollars\$112,407,25Performance Bond @ 1%\$1,124,07Gross Cost (Adjusted)\$113,531,32Administration and Project Management @ 4%\$4,541,25Contingency @ 20%\$22,706,26Hazardous Materials Management Contingency\$140,778,86Total Site Restoration Cost (current dollars)\$140,778,86	Profit @ 0%	\$0
Subtotal Subtotal Adjusted to Current Dollars Performance Bond @ 1% \$112,407,25  Gross Cost (Adjusted) \$113,531,33  Administration and Project Management @ 4% \$4,541,25  Contingency @ 20% \$22,706,26  Hazardous Materials Management Contingency \$140,778,84	Insurance @ 0%	\$0
Subtotal Adjusted to Current Dollars Performance Bond @ 1% \$1,124,07 Gross Cost (Adjusted) \$113,531,33 Administration and Project Management @ 4% \$4,541,29 Contingency @ 20% \$22,706,29 Hazardous Materials Management Contingency \$140,778,84	Specialty Contracts (subcontracted work)	\$485,400
Performance Bond @ 1% \$1,124,07  Gross Cost (Adjusted) \$113,531,32  Administration and Project Management @ 4% \$4,541,29  Contingency @ 20% \$22,706,20  Hazardous Materials Management Contingency \$140,778,84	Subtotal	\$110,236,086
Gross Cost (Adjusted)  Administration and Project Management @ 4% \$4,541,25  Contingency @ 20% \$22,706,26  Hazardous Materials Management Contingency  Total Site Restoration Cost (current dollars)  \$113,531,33  \$4,541,25  \$22,706,26  \$21,706,26  \$3140,778,86	Subtotal Adjusted to Current Dollars	\$112,407,253
Administration and Project Management @ 4% \$4,541,25 Contingency @ 20% \$22,706,26 Hazardous Materials Management Contingency \$ Total Site Restoration Cost (current dollars) \$ \$140,778,84	Performance Bond @ 1%	\$1,124,073
Administration and Project Management @ 4% \$4,541,28 Contingency @ 20% \$22,706,28 Hazardous Materials Management Contingency \$  Total Site Restoration Cost (current dollars) \$140,778,84	Gross Cost (Adjusted)	\$113,531,326
Contingency @ 20% \$22,706,26 Hazardous Materials Management Contingency \$  Total Site Restoration Cost (current dollars) \$140,778,84		\$4,541,253
Hazardous Materials Management Contingency  Total Site Restoration Cost (current dollars)  \$140,778,84	, -	\$22,706,265
Total Site Restoration Cost (current dollars) \$140,778,84	,	\$0
,		\$140,778,844
Total Site Restoration Cost (rounded to nearest \$1,000) \$140,779,00	Total Site Restoration Cost (rounded to nearest \$1,000)	\$140,779,000

# <u>Grid-Enhancing Electric Transmission Lines</u> Tab 03 - Concrete Wrecking

#### A. Reinforced Concrete

1	Slab on Grade (CY)	
	Work Item	Quantity
1	Communication Station Pads	250
2		
3		
4		
5		
	Total	250

2	Minor Footings (CY)	
	Work Item	Quantity
1	N/A	
2		
3		
4		
5		
	Total	0

3	Mass Footings (CY)	
	Work Item	Quantity
1	See below	
2		
3		
4		
5		
	Total	0

4	Transmission Foundations (CY)	
	Work Item	Quantity
1	Remove 500 kV Tower Fdns	12,380
2	230 kV Rebuild	N/A
3	138/69kV Rebuild	N/A
4		
5	Total	12380

Tab 03 - Concrete Wrecking

#### **B. Non-Reinforced Concrete**

	Dead Men (CY)	
1	Work Item	Quantity
	N/A	j
1		
2		
4		
5	Total	0
	Security Rails (LF)	
2	Work Item	Quantity
	N/A	
1		
2 3 4		
3		
5	Total	0
	Consents Describe (CV)	
	Concrete Recycle (CY)  Work Item	0
3		Quantity
	N/A	Quantity
1		Quantity
1		Quantity
1 2 3		Quantity
1 2 3 4	N/A	
1 2 3		Quantity
1 2 3 4	N/A  Total	
1 2 3 4	Total Piling (EA) Work Item	
1 2 3 4 5	Total Piling (EA)	0
1 2 3 4 5	Total Piling (EA) Work Item	0
1 2 3 4 5	Total Piling (EA) Work Item	0
1 2 3 4 5	Total Piling (EA) Work Item	0
1 2 3 4 5	Total  Piling (EA)  Work Item  N/A	Quantity
1 2 3 4 5	Total Piling (EA) Work Item	0

## Grid-Enhancing Electric Transmission Lines Tab 05 - Steel Wrecking

1	500-kV Towers (EA)	
	Work Item	Quantity
1	500 kV Steel Lattice Towers	1076
2	500 kV Steel H-Frame Structures	90
3		
4		
5		
	Total	1166

2 138/69-kV Monopole Structures (EA)		
	Work Item	Quantity
1	N/A	
2		
3		
4		
5		
	Total	0

3		
	Work Item	Quantity
1	N/A	
2		
3		
4		
5		
	Total	0

4	4 Sort/Clean (EA)		
	Work Item	Quantity	
1	N/A		
2			
3			
4			
5			
	Total	0	

5	5 Labor (EA)		
	Work Item	Quantity	
1	N/A		
2			
3			
4			
5			
	Total	0	

6	6 Equipment (EA)		
	Work Item	Quantity	
1	N/A		
2			
3			
4			
5			
	Total	0	

# Grid-Enhancing Electric Transmission Lines Tab 06 - Timber Wrecking

1 230-kV Towers (EA)		
	Work Item	Quantity
1		
2		
3		
4		
5		
	Total	0

2	138-kV Towers (EA)	
	Work Item	Quantity
-	Work Item	Quantity
1		
2		
3		
4		
5		
	Total	0

# Grid-Enhancing Electric Transmission Lines Tab 16 - Electrical Wrecking

1	1 Transformers (EA)		
	Work Item	Quantity	
1	N/A		
2			
3			
4			
5			
	Total	0	

2	2 Motor Control Center (EA)		
	Work Item	Quantity	
1	N/A		
2			
3			
4			
5			
	Total	0	

3	3 Wiring (LF)		
	Work Item	Quantity	
1	N/A		
2			
3			
4			
5			
	Total	0	

4	4 Switch Yard (SF)		
	Work Item	Quantity	
1	N/A		
2			
3			
4			
5			
	Total	0	

# Grid-Enhancing Electric Transmission Lines Tab 16 - Electrical Wrecking

5	5 Switch Yard \Towers (EA)		
	Work Item	Quantity	
1	N/A		
2			
3			
4			
5			
	Total	0	

6	6 Grounding (LF)				
	Work Item	Quantity			
1	Copper ground wire (incl. all str's)	111,200			
2					
3					
4					
5					
	Total	111,200			

7 Transmission Line Wiring (MI)				
7 Transmission Line Wiring (MI)				
	Work Item	Quantity		
1	3-1519 ACSR "Deschutes" (500 kV)	285.6		
2	1/2" Steel Overhead Shield Wire	285.6		
3	48-strand Optical Ground Wire	285.6		
4	795 kcm ACSR "Drake" (230 kV)	0.95		
5	397 kcm 26/7 ACSR "Ibis" (138 kV)	1.16		
6	4/0 6/1 ACSR "Penguin" (69 kV)	N/A		
7	20 ASCR "Quail" (12.5 kV)	N/A		
	3/8" Overhead Shield Wire (138 and	2.1		
8	230 kV)	2.1		
	Total	859		

8	8 Breaker/Insulator/Misc (EA)				
	Work Item	Quantity			
1	Transmission Insulator Strings (500 kV)	3,498			
2					
3					
4					
5					
	Total	3,498			

9 Transmission Line Wiring Equipment (MI)			
	Work Item	Quantity	
1	N/A		
2			
3			
4			
5			
	Total	0	

### **Grid-Enhancing Electric Transmission Lines**

### Tab 18 - Scrap Value (NOT USED)

Scrap Item	Quantity	Unit	Unit Rate	Value
Structure Steel	31,366	TN	171	5,374,373
Conductor Steel	1,281	TN	171	219,492
Shield Wire Steel	370	TN	171	63,397
OPGW Steel	0	TN	171	0
Hardware Steel	2,040	TN	175	358,007
Conductor Aluminum	8,066	TN	1,440	11,614,320
OPGW Aluminum	324	TN	1,160	375,840
Grounding Copper	7	TN	3,000	21,000
Equip Scrap Value				0
Total				\$ 18,026,428

### **Grid-Enhancing Electric Transmission Lines**

### **Tab 19 - Separate Specialty Contracts**

Subcontractor	Quantity	Unit	Unit Rate	Value
Lot Rentals	1	LS	60,000	60,000
Port-a-John Rentals	1	LS	91,200	91,200
<b>Dumpster Rentals</b>	1	LS	34,200	34,200
LIDAR Survey	300	MI	1,000	300,000
				0
Total				485,400